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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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11/14/2001

Takashi Yamane

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10/04/2004

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EXAMINER

PHAN, HANH

ART UNIT

PAPER NUMBER

2633

DATE MAILED: 10/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/987,460

Applicant(s)

YAMANE, TAKASHI

Examiner

Hanh Phan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 November 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

-In the abstract section, the form and legal phraseology often used in patent claims, such as "means" and "said" should be avoided. For example, in the abstract section, the phrases such as "an optical filtering means", "optical transmission means", "a means", "filtering means", and "bandpass filtering means" should be avoided.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 3, 4, 7, 8, 13, 14, 18 are rejected under and 27 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
4. Claims 3, 4, 13 and 14 recite the limitation "**the stop band**" in lines 4 and 5. There is insufficient antecedent basis for this limitation in the claim.
5. Claims 7 and 8 recite the limitation "**the stop band**" in lines 4 and 5. There is insufficient antecedent basis for this limitation in the claim.
6. Claims 18 and 27 recite the limitation "**fiber Bragg grating**" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 5, 9-11, 15, 16, 19, 20, 22-25 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyu et al (US patent No. 6,369,926) in view of Miyachi et al (US Patent No. 5,920,414).

Regarding claims 1, 5, 11, 20, 22 and 23, referring to Figures 1 and 2, Lyu discloses a collective detection system for wavelength fluctuations for use in a wavelength division multiplexing optical communication system is provided with:

an optical filtering means (i.e., optical fiber filter 17, Fig. 1) having a plurality of wavelength pass bands for transmitting wavelength division multiplexed transmission lights consisting of a plurality of signal lights having undergone modulation with mutually different frequencies (i.e., local oscillators 11, Fig. 1)(col. 2, lines 10-40);

a means (i.e., photodetector 18, Fig. 1) for collectively receiving and photoelectrically converting the lights transmitted by said optical filtering means (17)(col. 2, lines 30-40); and

a means (i.e., optical frequency stabilizing controller 19, Fig. 1) for detecting the output level and detecting any fluctuation in each of the wavelengths said wavelength division multiplexed transmission lights contain (col. 2, lines 30-40).

Lyu differs from claims 1, 5, 11, 20, 22 and 23 in that he fails to teach a first band pass filtering means each having as its pass band said modulation frequency of each of said photoelectrically converted electrical signals. However, Miyachi in US Patent No. 5,920,414 teaches teach a first band pass filtering means (43-1 to 43-N)(Fig. 6) each having as its pass band the modulation frequency (f_1 - f_N) of each of the photoelectrically converted electrical signals (col. 12, lines 52-67 and col. 13, lines 1-34). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the band pass filters as taught by Miyachi in the system of Lyu. One of ordinary skill in the art would have been motivated to do this since Miyachi suggests in column 12, lines 52-67 and col. 13, lines 1-34 that using such the band pass filters have advantage of allowing selecting the wanted signal and eliminating the noise signals and increasing the signal to noise ratio.

Regarding claims 9, 15 and 24, the combination of Lyu and Miyachi teaches the band pass filtering means consists of a plurality of band pass filters arranged in parallel (Fig. 6 of Miyachi).

Regarding claims 10, 16 and 25, the combination of Lyu and Miyachi teaches a means for digitally converting the output signals of the photoelectric conversion means and a signal processing means having a digital filtering function (Fig. 6 of Miyachi).

Regarding claims 19 and 28, the combination of Lyu and Miyachi teaches the optical filtering means are Fabry-Perot etalon type spectral elements (col. 2, lines 24-26 of Lyu)

9. Claims 2, 6, 12, 17, 18, 21, 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lyu et al (US patent No. 6,369,926) in view of Miyachi et al (US Patent No. 5,920,414) and further in view of Nasu et al (US Patent No. 6,282,340).

Regarding claims 2, 6, 12 and 21, the combination of Lyu and Miyachi differs from claims 2, 6, 12 and 21 in that it fails to teach branching part of the wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically converted electrical signals to be transmitted. However, Nasu in US Patent No. 6,282,340 teaches branching part of the wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically converted electrical signals to be transmitted (Figs. 27 and 32, col. 17, lines 33-67). Therefore, it would have been obvious to one having skill in the art at the time the invention was made to incorporate the branching part of the

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wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically converted electrical signals to be transmitted as taught by Mizrahi in the system of the combination of Lyu and Miyachi. One of ordinary skill in the art would have been motivated to do this since Nasu suggests in column col. 17, lines 33-67 that using such the branching part of the wavelength division multiplexed transmission lights, photoelectrically converting the branched lights and causing the photoelectrically converted electrical signals to be transmitted have advantage of allowing adjusting precisely the wavelength of light output from laser and providing a wavelength division optical communication system with stabilized.

Regarding claims 17, 18, 26 and 27, the combination of Lyu and Miyachi^{and Nasu} teaches the optical filtering means are fiber Bragg grating type spectral elements (Figs. 27 and 32 of Nasu)

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Mizrahi et al (US Patent No. 5,943,152) discloses laser wavelength control device.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hanh Phan whose telephone number is (571)272-3035.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jason Chan, can be reached on (571)272-3022. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-4700.

A handwritten signature in cursive script, appearing to read 'Hanh Phan', is written over a horizontal line.

Hanh Phan

09/30/2004